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# DISCUSSION OF LEAP WEEK

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AT the Dayton Conference of the Federal Council of Churches, held in December, there was a valuable and instructive discussion of what is meant by calendar reform. By an important decision, the Federal Council accepted the principles of The World Calendar, and the occasion was a subject of comment in the press. Whereupon a number of distinguished Rabbis of the Jewish Community sought an opportunity of stating their position. In response to their request, an invitation was given them to appear before representatives of the Federal Council in New York City.

The tone and temper of the discussion was a welcome contrast to what, a few years ago, was the attitude of some calendar reformers towards the opposition of Seventh Day Adventists, certain Jewish and other minorities. It was with the utmost respect and sympathy that agelong beliefs, observances and susceptibilities were taken into careful consideration.

A problem has to be solved and it is well that the problem be clearly understood. The purpose of what follows is not controversy but a friendly and cooperative approach to what, after all, is a situation in which there is a common interest.

For thousands of years, the Jewish community throughout the world has been honorably associated with the calendar. It is to the Jew that mankind owes the Sabbath—that merciful provision of one day rest in seven which has become an industrial right as well as a spiritual and cultural privilege. Nor would it be easy to mention any contribution to health, to sanity, to happiness more beneficent for people of all races and religions than the Holy Day in every week. Any attempt to eliminate the Holy Day, whether of the Jew, the Christian or the Moslem, from any week anywhere, will be resisted by all who have ever advocated The World Calendar. As a trustee of the Rest Day for Man, universal and never to be interrupted, the Jewish community deserves the unshaken support of all reasonable and responsible people.

The Jewish community is also a factor of importance in the promotion of international brotherhood and, within the range of its influence, this community stands for peace. Of that inter-racial and inter-religious solidarity—the ability of man, despite all dissensions, to work out a destiny that shall be of common advantage to all mankind—calendar reform is an expression, and it may prove to be a very significant expression.

The inclusion of trusted Jewish leaders within the developing comrade-

ship of calendar reform is thus a consummation devoutly to be wished, and three questions arise. First, what is agreed? Secondly, what differences await discussion? Thirdly, what is the larger issue involved?

Over what would be the perfect calendar, there is no debate. Everybody is of but one opinion that, according to logic, there should be one calendar for this planet, in which every year, every quarter, every month, every week, every hour, every minute and every second, respectively would be of uniform length. Indeed, zealous exponents of the decimal system might be tempted to add that all these divisions and subdivisions of time should be related to one another by multiples of ten so that everybody would be able to count the clock on his fingers!

The Hebrew Scriptures have taught us, however, that we have to live in the universe which God created, that God is above all systems and sovereign over all uniformities. It is not He Who fits into our scheme. It is we who have to fit into His scheme, and the Calendar is an adjustment of time, as we understand time, to His arrangement of the sun in the heavens and the stars in their courses.

That adjustment is, even today, far from perfect, and in his dealings with the Eternal, the spirit of man will not rest satisfied until perfection, so far as he can conceive of it, swallows up imperfection, nor is there anything in Hebrew annals that tolerates an ideal less exalted than this. The Scriptures—Law and Psalm and Prophecy—are an everlasting Magna Carta of the Best that man in his most exalted moments can ask or think.

The Jewish people are not to be held responsible for the anomalies and irregularities of the Gregorian calendar. No religious community—Jewish, Christian, Moslem, whatever it be—has a reason for upholding what originated in the Paganism of a Roman Empire that has disappeared. A proposal to arrange the months of the year according to simple common-sense—to get rid of a February with 28 days and other absurdities—challenges no faith and wounds no feeling. Everybody—according to the measure of his interest in the subject—favors such an adaptation. Nobody—up to this point—has any reason to be against it.

Over the simple arithmetic of the year, there is little room for argument. Here it is a question, not of opinion, but of the multiplication table and, with clear logic, Rabbi Moses Hyamson, who has devoted years to this problem, sees what is mainly important to calendar reform. The workable year must consist of 364 days or 52 weeks of seven days, and four quarters of 91 days. Within the quarters, the months of 31, 30, 30 days—included in the World Calendar—would correspond.

There is one difficulty and only one difficulty to be considered. Some may think that the difficulty is of great importance. Even they must admit that it stands alone. That difficulty is the length of the year.

The astronomical year consists of  $365\frac{1}{4}$  days approximately, and a



calendar year of 364 days thus falls short by 5 days in 4 years. According to the present calendar, there is one day added for three years and two days added for the fourth or Leap Year. In a World Calendar, how would those extra days be accounted for? That is the question over which the Jewish Rabbis express a genuine concern.

The position may be explained, perhaps, by a simple illustration. Suppose that a person lives in a house that has one clock. It cannot be regulated and it gains just one minute a day. It has thus a tendency to go fast. How should such a clock be adjusted to astronomical time?

One plan would be to let the clock run on, say for a month, and then stop it for a half an hour. Another plan would be, every night, to stop the clock for a minute. Which plan would be best?

Obviously the second. By adjusting the clock every day, its error is kept strictly within one minute, and one minute is not much of a deviation from scientific punctuality. But a clock that may be 10 or 20 or 30 minutes fast, is seldom in accord, even approximately, with correct time. For catching trains and keeping appointments, it has ceased to be an exact instrument of workaday chronology.

The calendar is a kind of clock and if the year in the calendar consists of 364 days, it means that the clock goes fast. It gains 5 days in 4 years and has thus to be adjusted to astronomical time. The question of the calendar is thus identical with the question of the clock—is it to be set right at long intervals or is it to be set right at short intervals?

A plan to which Rabbi Hyamson draws our attention, consists of an adjustment of the calendar, not each year, but after a term of years. This plan requires either a Leap month, so-called, or a Leap week.

First, let us look at the Leap Month. If 5 days are gained in four years, it follows that, in 28 years, 35 days will have been gained. It is thus suggested that, every 28 years, there should be inserted in the Calendar a month of exactly 5 weeks; and let us see how it would work. At midnight of December 30th, the last day of the new Calendar year, there would begin—not January 1st, but Leap Month 1st; and only at midnight of Leap Month 35th would January 1st commence.

All of us are aware that it is difficult to set a watch by the sun dial or to tell the time on the seashore by the tide. This plan of saving up days for 28 years would be a similar separation of the calendar from solar time. A clock that has stopped entirely is at least right twice a day. This calendar would only be right three to four times in a century.

Its error would accumulate to a maximum of no less than 35 days—and we do well to consider what such an error would mean. In 1582, the calendar—previously arranged at the Council of Nice in 325 A.D.—was 10 days ahead of the vernal equinox. That error was less than a third of 35 days. Yet Pope Gregory XIII thought that it was sufficiently serious

to be corrected. According to the proposal for a Leap Month, the calendar, eight years after each correction, would show an error greater than that which, in 1582, had accumulated in more than 1200 years and at the adjustment, a year of 364 days would suddenly become a year of 399 days!

An alternative plan provides for a Leap Week. The extra days accumulate, year by year, until a complete week has been obtained. That week is then inserted—like Leap Month—between December 30 and January 1.

The magnitude of the maximum error in this case is less than 35 days. But it is, in fact, as serious. A day is added for every ordinary year and two days are added for Leap Year, which arrangement works out in more than one way. Take the following progression:

$$1 + 1 + 1 + 2 + 1 + 1 = 7 \text{ days}$$

The week is there accumulated in 6 years.

But let us put the progression thus:

$$1 + 2 + 1 + 1 + 1 + 2 = 8 \text{ days}$$

In this case, six years yield 8 days, not 7, while five years would only yield 6 days. We have thus to run on to a second week thus:

$$1 + 2 + 1 + 1 + 1 + 2 + 1 + 1 + 1 + 2 + 1 = 14 \text{ days}$$

It thus requires 11 years to obtain a complete week or weeks and, in fact, two weeks are required to adjust the calendar, not one. Thus the years, corrected by Leap Weeks, would be of three alternative durations—364 days, 371 days, and 378 days.

There have been measures taken with a view to eliminating the variable Easter. The Leap Month and the Leap Weeks would involve variations far more inconvenient than Easter has been in their effect on human life. The solstices and equinoxes, as solar anniversaries, would vary by as much as 14 days, and the nautical almanac would be thrown into a confusion that might be a danger to shipping.

It is no merely personal opinion that the Leap Month is fantastic and that the Leap Week is impossible. In 1931, the League of Nations, after full consideration, issued a report on calendar reform in which this particular device was described as "inferior to the existing calendar." It was added that such a plan "cannot be considered at all." The verdict must be accepted as final.

In The World Calendar, the adjustment of the year is annual and no large error is allowed to accumulate. There is Year-End Day annually after December 30th. There is Leap Year Day, quadrennially, after June 30th. The discrepancy between calendar and astronomical time is thus kept within the irreducible minimum which is possible according to the essential circumstances of the case. It will thus be seen that there must be some reason—which he holds to be a strong reason—why Rabbi Hyamson



prefers a Leap Month or a Leap Week to a Leap Day. About that reason, there is no mystery. He holds that Leap Day changes the progression of the weeks and so interrupts the continuity of the Jewish Sabbath.

There are those who, greatly daring, have argued that a passage in Leviticus—XXIII 15-16—reveals Moses as a calendar reformer. Does not the language suggest that the law-giver treated seven weeks as 50 days and so introduced a Year Day into the Hebraic festivals? The passage is carefully explained by Rabbi Hyamson in a different sense. Still, it does not appear entirely to exclude such an interpolation of a day. In any event, it gives the impression that there cannot be anything of moral obliquity in such an inserted day.

Time—as a great and highly honored Jew, Albert Einstein, has made clear—is by no means so simple an element in existence, whatever our existence may be, as we are apt sometimes to suppose. Let us suppose that a man uses one of the weeks of his life in order to fly round the world. If he flies east, he reduces 7 days of his life to 6. If he flies west, he extends 7 days of his life to 8. Yet it would be difficult to suggest that such a man, giving thanks in a synagogue for his safe return, was failing to keep the Sabbath merely because, for him, the Sabbath had ceased to be a seventh day in his calendar.

Let us imagine for a moment that the whole world fell asleep one evening and did not awaken until the day after tomorrow. Would this mean that the God of Abraham, of Isaac and of Jacob would withdraw the shadow of His wings from those who are, in body and soul, the children of Abraham? What is it in the synagogue that has endured through the ages? What are the depths of emotion, of loyalty, of faith, of worship that, through the centuries, have inexhaustibly sustained this society of man for whom is reserved some destiny yet to be fulfilled? Surely they are not to be measured by a detail of chronological exactitude.

The learned Rabbi has insisted that the word Sabbath does not signify only a day of rest. It signifies Rest itself and the principle of Rest thus emphasized by Hebrew tradition, is no outworn principle. We have today the five-day week. That short week is not destroying the Sabbath. On the contrary it is associating Jew and Christian in a double Sabbath, human and divine, which both are able to celebrate in unison.

And so with the Year and Leap Days. These also are days, not withdrawn from the Sabbaths of the Year but added unto them. They are among those Holy Days which man may use as holidays.

According to The World Calendar, in so far as it affects the matter at all, the Jewish Sabbath is set in a strategic position. It remains what it has been—the day on which every week ends. It becomes the day on which every quarter ends. More important than all, it becomes the day on which

every year ends. The place of the Sabbath in such a year is impregnable.

No ecclesiastical organization is more sensitive over ritual and times and seasons than the Roman Catholic Church. No organization has to consider a more bewildering complexity of festivals. In dealing with the calendar, the Church has displayed caution. But she has been more than careful to refrain from attaching faith to dates. Eternity, not time, is, as all mystics are assured, the measure of religion.

Through all ages, the Jewish people have concentrated their minds on life itself. That has been the glory of the Hebraic mission—life and home and happiness defended against the oppressive encroachments of power. If it can be shown that calendar reform guarantees 52 fixed Sabbaths in the year and safeguards those Sabbaths within every year, and if this acceptance of the Sabbath can be extended as a blessing to all mankind—might it not be worth while for the guardians of the Sabbath to consider this opportunity of leadership along the path of well-being for all people?

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### NOTES FROM CALENDAR HISTORY

By A. K. CLEVENGER, *Civil Engineer, Claremont, Va.*

**D**ECISION between the various proposals for calendar reform is a comparatively easy matter for anyone who realizes one clear lesson of history—that all true progress comes from gradual change. The only practical change in our calendar is one which proposes no undue upheaval.

Delving into calendar history, I have been particularly interested in the question of when the calendar first became public property. We know, for instance, that for thousands of years the priests guarded it as one of their most valuable secrets. They kept the records of the heavenly bodies and the time measurements which came from these records, as the sole property of the temple. Rulers and statesmen, merchants and farmers, had to consult the priests when they wanted to know about future dates—when to travel, marry, plant, hunt, and so on. The temple doled out the lucky and unlucky days, cast horoscopes, kept family records, measured days, weeks, months, quarters.

Only gradually did the calendar emerge from a mass of weeds which had grown up with it, weeds that were superstition and sorcery and augury and conjecture.

Perhaps the first group to become "calendar wise," outside the priesthood, were the Roman lawyers, who were a species of left-handed priests handling all the "unholy" or civil matters of law, as distinguished from matters of the "holy" or temple law. Their clients consulted them to ascertain the proper days for commencing law suits.

The secrecy of the calendar had lasted a long time. But finally came the dawn. Sometime about 315 B.C., Cneius Flavius, son of a freedman and scribe to Appius Caecus, the edile, conceived the idea of making the law calendar public. He struck off copies of it and hung the copies around the forum, white tablets which stirred up such public interest that Flavius was made a praetor, the first freedman to be thus honored. The lawyers set up a great hue and cry, fearing that the publicizing of the calendar would ruin their business. But the calendar was out of the temple to stay. The blow that this democratization of time dealt to the patrician classes was noted by Livy, who spoke of the reward given to Flavius as an indication of how "a faction of the lowest people is gathering strength to destroy sacred things."